

Prosecution Application of Serial No. 08/596,612. An Information Disclosure Statement was filed on March 10, 1997, which has also been considered by the Patent Office and is a part and parcel of the same file history of the present application. Applicant has forwarded a copy of the prior Information Disclosure to the Examiner for review.

35 U.S. C. Section 102(b) Rejection

The Examiner has rejected claims 1-7, 9 and 11-20 under 35 U.S.C. The Examiner states that Treiber, et al. discloses an impeller located between two radially separable walls of a regenerative-type fuel pump, in that the cross-sectional area in the inlet flow is greater than the cross-sectional area in the outlet area. Additionally, the Examiner states that the flow path is tapering axially inwardly toward the impeller from the fluid into the fluid outlet end as the fluid is directed back toward the impeller.

In order for the 35 U.S. C. Section 102(b) rejection to stand, the reference must include each and every feature in the rejected claims. In the claims as amended, applicant has amended the claims to provide that the case includes a fluid inlet and a single fluid outlet. Additionally, the flow path is a chamber by tapering along substantially the entire length of the flow path.

With respect to the Treiber, et al. patent, Treiber, et al. includes two fluid outlets, one at 29 (for de-gassing) and one at the end of the continuous end of the flow path 15. The Treiber, et al. patent does not disclose or teach a single fluid exit. Nor does Treiber, et al. teach a chamber tapering along substantially the entire length between the fluid inlet and the single fluid outlet. Portion 15 in Treiber, et al. is constant in cross-section. Treiber, et al. only tapers to the de-gassing port 29.

Therefore, the 35 U.S.C. Section 102(b) rejection must fail, in that the reference does not teach each and every limitation as set forth in the claims.

35 U.S.C. Section 103 Rejection

The Examiner has rejected claims 8 and 10 under 35 U.S.C. Section 103 as being unpatentable over Treiber, et al. Applicant requests reconsideration of this rejection, based on the following.

While Treiber, et al. teaches a decreasing cross-sectional area, the decreasing cross-sectional area is only for pushing air out the vent 29 and, thereafter, a constant cross-sectional area 15 is disclosed. This is set forth in column 5, lines 12-17 of the '087 patent. The '087 patent is designed to be a fuel pump application and the purpose of the orifice 29 is to pressurize and dissipate gas through the de-gassing bore 29. In the present application, the chamber is tapered along substantially the entire length and exits at a single fluid outlet. The present application does not have two openings, such as that set forth in Treiber, et al., wherein there is a de-gassing opening and a separate outlet opening. Certainly, Treiber, et al. does not teach a constant tapering along the entire length of the compression chamber, as set forth in the subject invention. The taper in Treiber, et al. is designed for compressing and dissipating gas through port 29, not for improved fluid flow as in the present invention.

It is respectfully submitted that the claims as amended patentably distinguish over the Treiber, et al. reference, in that a continuous taper along substantially the entire length of the chamber is not shown in Treiber, et al., nor is a single fluid outlet, as set forth in the subject invention. Furthermore, claim 15 has now been amended to reference that the tapering is on a constant slope, and reduces the cross-sectional area from the first area to the second area, from about 10% to about 50%. Such a reduction, in combination with the constant slope chambering chamber, is not found or rendered obvious by the Treiber, et al. patent. As shown in Figures 22 and 23, the use of the

constant cross-section results in higher efficiency than a constant cross-section, as shown in the Treiber, et al. patent.

Therefore, in light of the above, Treiber, et al. does not teach, suggest or render obvious the present invention as claimed. It is respectfully submitted that the application is in condition for allowance. Applicant respectfully requests allowance of the present application. If the Examiner has any questions or deems it useful to call the attorney to advance prosecution of the subject application, he is directed to call the attorney at the address set forth below. However, the Office is reminded that all further correspondence should be sent directly to BorgWarner Inc., at 3001 West Big Beaver Road – Suite 200, P.O. Box 5060, Troy, Michigan 48007-5060.


Respectfully submitted,

WARN IP LAW OFFICE
Attorneys for Applicant(s)

P.O. Box 70098
Rochester Hills, MI 48307
(248) 627-1133

Dated: June 29, 2000

PRW:jmz

By: 
Philip R. Warn
Reg. No. 32775